

Abstract of the Disclosure

A calciner kiln for producing cement from raw kiln material is disclosed including a preheater for heating raw kiln material; a calciner for thermally decomposing raw material, and a rotary cement kiln for producing clinker having a charge end and a discharge end. The calciner in communicates with the charge end of the rotary kiln for receiving hot kiln gas from the kiln, and a clinker cooler is connected to the discharge end of said rotary kiln for cooling clinker falling into the cooler. A system is disclosed for continuously feeding and burning solid waste derived fuel (SWDF) material in the calciner comprising a calciner combustion chamber; a kiln feed for feeding raw kiln material to said calciner combustion chamber, and a waste material feed system for continuously feeding SWDF material at a controlled rate to the calcine combustion chamber for burning. A burner produces a flame in the calciner combustion chamber having a burner fuel control for feeding a control fuel to the burner to control the temperature in the combustion chamber. The calciner combustion chamber has a high oxygen, controlled temperature environment for burning the SWDF material and control fuel to a generally complete burnout for calcining the raw kiln material. A riser duct is connected between the charge end of the rotary kiln and the calciner. The combustion chamber introduces hot combustion gas generally above the riser duct for mixing with the hot kiln gas flowing through the riser duct at a high velocity for further calcining of the raw kiln materials and burnout of the SWDF material.

The feed system for continuously feeding SWDF material to the combustion chamber for burning includes a feed hopper for accumulating shredded SWDF material, and a force feeder for feeding the SWDF material through a feed housing from the hopper to the combustion chamber. A feed conveyor conveys the SWDF material to the feed hopper at a controlled rate. A fuel conditioner bin containing fuel conditioner feeds the fuel conditioner into the hopper of the feed system for mixing with the SWDF material to enhance its flowability. Means for shutting down the combustion chamber include shutoff gates for blocking air to the feed housing and a bin flow control for dumping fuel conditioner into the hopper to smother the SWDF material.